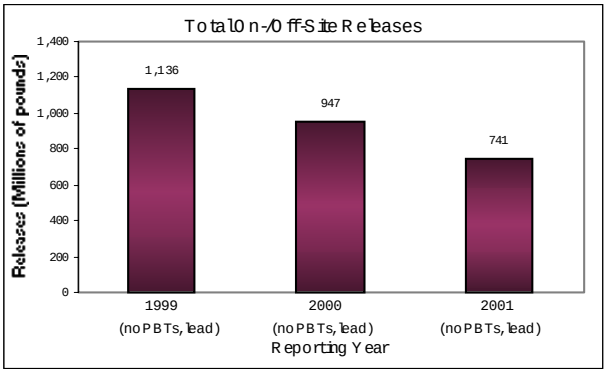
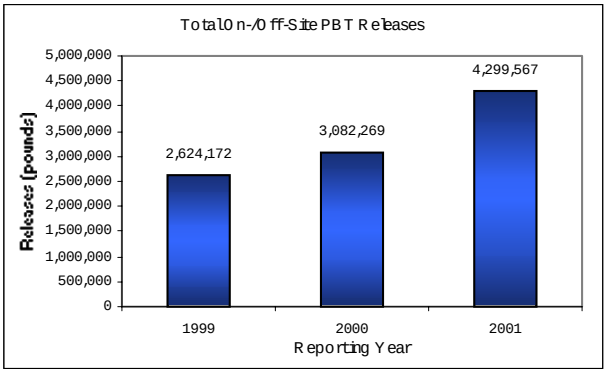
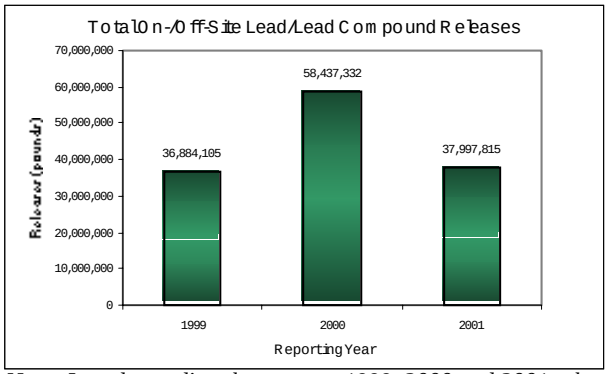
Nevada Report 2001:Toxics Release Inventory

U.S. EPA Region 9
Nevada, California, Hawaii, Nevada, and the Pacific Islands

Toxic Chemical Releases: 1999-2001







Total Releases (in pounds) for Reporting Years 1999-2001

Year	*Air*	*Water*	*On-Site Land*	*Under-ground Injection*	*Off-Site*
1999	4,759,519	136,432	1,167,095,137	2,797	136,854
2000	3,328,624	121,808	1,002,466,400	1,050	2,445,499
2001	2,728,944	82,849	778,244,135	785	2,436,950

Table does not reflect changes in reporting requirements

Note: *In order to directly compare 1999, 2000 and 2001 releases, PBT and lead/lead compound chemical reported releases are illustrated separately in the charts above.*

The 2001 Public Data Release

EPA has just made public the 2001 data on toxic chemicals that were released to Nevada's air, water and land. This information comes from the Toxics Release Inventory (TRI), a federal community right-to-know program. In Nevada, 103 facilities reported 783 million pounds of toxic chemical releases*.

It is important to note that release should not be directly equated with risk. To evaluate risk, release data must be combined with information about chemical toxicity, site-specific conditions, and exposure. In addition, these data do not indicate whether a facility is violating environmental laws. Many of the substances reported through this program are subject to state and federal regulations designed to protect human health and the environment.

Industries

Manufacturing industries have been reporting their releases since reporting year (RY) 1987, and federal facilities started reporting in RY 1994. In RY 1998, an additional seven industry sectors began reporting their

** Release is defined as the amount of a toxic chemical released on-site (to air, water, underground injection, landfills and other land disposal), and the amount transferred off-site for disposal. Year to year data comparisons do not reflect changes in reporting requirements.*

toxic chemical releases for the first time. These sectors are metal and coal mining, electricity generation, commercial hazardous waste treatment, solvent recovery, petroleum bulk terminals, and wholesale chemical distributors. A recent court decision may affect TRI reporting obligations for metal mining facilities in future years. Reporting year 2002 data will reflect those changes, in particular differences in toxic chemicals reported in waste rock.

Releases

Total reported on- and off-site releases for all industries in Nevada fell 22% from 2000. Most of this reduction can be attributed to decreases in on-site land releases from mining facilities. Echo Bay Minerals Company McCoy/Cove Mine suspended open pit mining in 2000 and Equatorial Tonopah Inc., has shut down.

Many mines extract, move, store, process, and dispose of large amounts of waste rock and ore--materials which often contain low concentrations of naturally occurring metals. The vast majority of this material is placed in surface impoundments or on the land, and the metals are reported as on-site releases to land. This previously buried material is exposed to potential leaching by rain, snow, and acid mine drainage, and must be carefully managed and monitored to prevent any surface water or ground-water contamination. There are also air releases from ore processing and metal refining operations.

Surface water discharges in Nevada decreased by nearly 39,000 pounds from 2000, due in large part to decreases in releases from the Newmont Mining Corporation Lone Tree Mine, Valmy. Underground injection releases decreased by 25% due to decreases at Jerritt Canyon Joint Venture, Elko. On-site land releases decreased by 22%, due mostly to decreases at Echo Bay Minerals Company McCoy/Cove Mine, Battle Mountain; Newmont Mining Corp, Twin Creeks Mine, Gloconda; and Equatorial Tonopah Inc., Tonopah. Off-site releases decreased by over 8,000 pounds. Total air releases decreased by 18%, a change largely attributable to reduced emissions from the U.S. Army Hawthorne Army Depot New Bomb facility, Hawthorne, and Coastal Chem Inc., Battle Mountain.

Persistent, Bioaccumlative, and Toxic Chemicals

In the year 2000, TRI was expanded to include additional persistent, bioaccumulative and toxic (PBT) chemicals, and required reporting for these chemicals at lower thresholds, ranging from 0.1 grams to 100 pounds. PBT pollutants are toxic chemicals that persist in the environment and bioaccumulate in food chains, thus posing risks to human health and ecosystems.

In Nevada, 42.3 million pounds of on- and off-site releases of PBT chemicals were reported. Of this, 38.0 million pounds were releases of lead and lead compounds, and 11.305 grams were releases of dioxin or dioxin-like compounds.

Below is a table of the PBT releases in Nevada, ranked by total on- and off-site releases. The data are in pounds for all chemicals except dioxin, which are given in grams.

New Data - Lead and Lead Compounds

For the year 2001, lead and lead compounds were reported as persistent, bioaccumulative and toxic (PBT) chemicals for the first time. While lead and lead compounds have been on the list of reportable

Table of PBT Releases in Nevada

Chemical	*Air*	*Water*	*Und. Inj.*	*Land*	*Off-Site Release*	*Total On- and Off-Site Releases 2001*	*Total On- and Off-Site Releases 2000*	*Percent Change*
Lead Compounds	5,513.25	48.00	0.10	37,970,967.90	3,816.00	37,976,529.25	N/A	N/A
Mercury Compounds	12,807.79	1.00	0.10	4,179,457.90	1,313.00	4,193,579.79	3,012,390.78	39%
Polychlorinated biphenyls (PCBs)	0.00	0.00	0.00	88,326.00	0.00	88,326.00	66,420.00	33%
Lead	93.89	0.00	0.00	16,998.40	377.00	17,469.29	N/A	N/A
Polycyclic aromatic compounds (PACs)	57.50	0.00	0.00	2,654.90	8,203.00	10,915.40	2,907.45	275%
Hexachloro-benzene	0.00	0.00	0.00	5,492.00	0.00	5,492.00	N/A	N/A
Benzo(g,h,i)-perylene	964.61	0.00	0.00	14.10	0.00	978.71	2.20	44387%
Mercury	151.48	0.00	0.00	109.00	3.00	263.48	537.16	-51%
Dioxin and dioxin-like compounds (in grams)	11.305	0.000	0.000	0.000	0.000	11.305	10.916	4%

Releases of persistent, bioaccumulative and toxic (PBT) chemicals (pounds). Dioxin and dioxin-like compounds data not in Toxicity Equivalence (TEQ).

chemicals since 1987, for the year 2001 the reporting threshold was drastically lowered (to 100 pounds manufactured, processed, or otherwise used), and this change has resulted in more comprehensive release information for these compounds.

Over 96% of the lead and lead compounds reported in Nevada were from the mining industry. In particular, the gold and silver mining industries account for the majority of lead compounds released in the state, with Echo Bay Minerals Company Mccoy/Cove Mine in Battle Mountain being the facility in Region 9 with the highest amount of lead compound releases (over 2.2 million pounds released on-site.)

Mercury and Mercury Compounds

Most of the mercury compounds reported were released to land by mining facilities. One electricity generating facility, Nevada Power Reid Gardner Station, released over 130 pounds of mercury to the air. One facility in the Portland cement manufacturing industry, the Nevada Cement Company, accounted for over 19 pounds of mercury released to the air.

Polychlorinated biphenyls (PCBs) and Polycyclic Aromatic Compounds (PACs)

All 88,321 pounds of PCBs reported were released to land by U.S. Ecology Inc., a hazardous waste treatment, storage, and disposal facility. Over 75% of reported PACs was released off-site by a rubber tire manufacturer - Michelin N.A. Inc.. Additionally, over 2,650 pounds of PACs was released to land by electricity generating facilities.

Top Facilities for Releases

The top 10 facilities for total on- and off-site releases in Nevada are:

Ø Barrick Goldstrike Mines Inc., Elko, Elko County, 323.5 million pounds

Ù Newmont Mining Corp. Carlin South Area, Carlin, Eureka County, 170.2 million pounds

Ú Newmont Mining Corp. Twin Creeks Mine, Gloconda, Humboldt County, 153.4 million pounds

Û Echo Bay Minerals Co. McCoy/Cove Mine, Battle Mountain, Lander County, 40.8 million pounds

Ü Cortez Gold Mines, Pipeline Processing Plant Mill #2, Cresent, Lander County, 27.2 million pounds

Ý Newmont Mining Corp., Lone Tree Mine, Valmy, Humboldt County, 21.3 million pounds

Þ Bald Mountain Mine, Elko, White Pine County 11.8 million pounds

ß Equatorial Tonopah Inc., Tonopah, Nye County, 9.7 million pounds

à U.S. Ecology Inc., Beatty, Nye County, 4.0 million pounds

á Coeur Rochester Inc., Lovelock, Pershing County, 3.5 million pounds

On-line Access

For national information on data release, see:
http://www.epa.gov/tri

The TRI data is available through the Envirofacts Warehouse, EPA's premier Internet site for distributing environmental information at:
http://www.epa.gov/enviro

or the TRI Explorer tool:
http://www.epa.gov/triexplorer

For general information on the Toxics Release Inventory, including reporting requirements for businesses, go to:
http://www.epa.gov/region09/toxic/tri

For more information on the EPA's PBT Chemicals Program:
http://www.epa.gov/opptintr/pbt/

Information and Assistance

We will be more than happy to answer your questions and assist you in learning more about the Toxics Release Inventory program in Region 9.

U.S. EPA Region 9 TRI Coordinator
Nancy Sockabasin, (415) 972-3772